**COMMONWEALTH OF VIRGINIA**
**Department of Environmental Quality**
**Southwest Regional Office**

# STATEMENT OF LEGAL AND FACTUAL BASIS

VP No. 3 - Island Creek Coal Company
Route 83, Vansant, Buchanan County, Virginia
Permit No. SWRO10352

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Island Creek Coal Company has applied for renewal of the Title V Operating Permit for its VP No. 3, Vansant facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact: _____ Date: May 30, 2007

Air Permit Manager: _____ Date: May 30, 2007

Deputy Regional Director: _____ Date: May 30, 2007

## FACILITY INFORMATION

Permittee
Island Creek Coal Company
P.O. Drawer L
Oakwood, VA 24631

Facility location
VP No. 3
State Route 83
Vansant, Virginia

County-Plant Identification Number: 51-027-00009

## SOURCE DESCRIPTION

NAICS Code: 212112 - Coal preparation

The facility cleans and dries coal prior to shipment by railcar. The facility utilizes a thermal dryer to dry coal that is cleaned by the preparation plant, which includes froth flotation and vacuum filtration.

Air emissions from the facility include particulate matter (PM, includes PM-10) from all dry processing units; volatile organic compounds (VOC) from the thermal dryer and preparation plant; and nitrogen oxides ($NO_X$), sulfur dioxide ($SO_2$), carbon monoxide (CO) and trace amounts of hazardous air pollutants (HAP) from the thermal dryer.

The facility is a Title V major source of PM-10, $NO_2$, $SO_2$, VOC and CO. This source is located in an attainment area for all pollutants.

## COMPLIANCE STATUS

The facility has not operated since early 1998. The most recent full compliance evaluation of the facility, including a site visit, was conducted on August 3, 1998. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

**EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

| Emission Unit ID | Stack ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant(s) Controlled |
|---|---|---|---|---|---|---|
| S001 | Z01 | Feeder to Rotary Breaker | 1000 TPH | Full Enclosure | D001 | PM/PM-10 |
| S002A | Z01 | Rotary Breaker | 1000 TPH | Full Enclosure | D001 | PM/PM-10 |
| S002B | Z01 | Crusher | 300 TPH | Full Enclosure | D001 | PM/PM-10 |
| S003 | Z01 | Rotary Breaker to Conveyor No. 1 | 750 TPH | Full Enclosure | D001 | PM/PM-10 |
| S004 | Z01 | Conveyor No. 1 to Raw Coal Silo | 750 TPH | Full Enclosure | D002 | PM/PM-10 |
| S005 | Z01 | Raw Coal Silo to Conveyor No. 2 | 750 TPH | Full Enclosure | D002 | PM/PM-10 |
| S006 | Z01 | Conveyor No. 2 to Preparation Plant | 750 TPH | Full Enclosure | D003 | PM/PM-10 |
| S007C | P002 | Thermal Dryer | 500 TPH | Venturi Wet Scrubber | D004 | PM/PM-10, $SO_2$ |
| S008 | Z01 | Conveyor No. 3 to Conveyor No. 4 | 600 TPH | Water Spray | D005 | PM/PM-10 |
| S009 | Z01 | Conveyor No. 4 to Clean Coal Stockpile | 600 TPH | Water Spray | D006 | PM/PM-10 |
| S010 | Z01 | Clean Coal Stockpile | 0.8 Acres | Water Spray | D006 | PM/PM-10 |
| S011 | Z01 | Dozer Grading Clean Coal Stockpile | 600 TPH | Water Spray | D006 | PM/PM-10 |
| S012 | Z01 | Dozer Loading Stockpile Hopper | 300 TPH | Water Spray | D006 | PM/PM-10 |
| S013 | Z01 | Stockpile Hopper to Conveyor No. 4 | 300 TPH | Partial Enclosure | D007 | PM/PM-10 |
| S014 | Z01 | Conveyor No. 4 to Conveyor No. 5 | 550 TPH | Full Enclosure | D005 | PM/PM-10 |
| S015 | Z01 | Conveyor No. 5 to Rail Car Loadout | 550 TPH | Partial Enclosure | D008 | PM/PM-10 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant(s) Controlled |
|---|---|---|---|---|---|---|
| S017 | Z01 | Rail Car Loading through Telescopic Chute | 550 TPH | Telescopic Chute | D009 | PM/PM-10 |
| S018 | Z01 | Crusher to Conveyor No. 6 | 300 TPH | Full Enclosure | D001 | PM/PM-10 |
| S019 | Z01 | Conveyor No. 6 to Refuse Bin | 300 TPH | Partial Enclosure | D010 | PM/PM-10 |
| S020 | Z01 | Conveyor No. 6 to Conveyor No. 7 | 300 TPH | Partial Enclosure | D010 | PM/PM-10 |
| S021 | Z01 | Conveyor No. 7 to Mountain Top Refuse Bin | 300 TPH | Partial Enclosure | D011 | PM/PM-10 |
| S022 | Z01 | Loading Refuse Trucks through Stationary Chute | 300 TPH | Chute No. 1 | D012 | PM/PM-10 |
| S023 | Z01 | Truck Dumping Refuse onto Ground | 300 TPH | N/A | N/A | N/A |
| S024 | Z01 | Dozer Grading Refuse Pile | 300 TPH | N/A | N/A | N/A |
| S025 | Z01 | Refuse Bin Chute Dumping onto Ground | 300 TPH | N/A | N/A | N/A |
| S026 | Z01 | Loading Refuse Trucks by Endloader | 300 TPH | N/A | N/A | N/A |
| S027 | Z01 | Dozer Loading Stockpile Loadout Feeder | 250 TPH | Partial Enclosure | D014 | PM/PM-10 |
| S028 | Z01 | Feeder to Stockpile Loadout | 250 TPH | Partial Enclosure | D015 | PM/PM-10 |
| S029 | Z01 | Rail Car Loading through Stationary Chute | 250 TPH | Chute No. 2 | D016 | PM/PM-10 |
| S030 | Z01 | Unpaved Roads | 72,927 VMT | Water Spray | D017 | PM/PM-10 |

VMT = Vehicle Miles Traveled

## EMISSIONS INVENTORY

A copy of the permit renewal application emission inventory is included in the application. Emissions are summarized in the following table:

| 1997 Actual Emissions | Criteria Pollutant Emission in Tons/Year | | | | |
|---|---|---|---|---|---|
| | VOC | CO | $SO_2$ | PM-10 | $NO_x$ |
| Total | 40.93 | 135.01 | 110.08 | 46.42 | 147.47 |

## EMISSION UNIT APPLICABLE REQUIREMENTS

**Thermal Dryer - S007C - McNally #8 Flow Dryer**

***Limitations***

The facility was constructed prior to 1972 and there have not been any subsequent installations or modifications to the facility. The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

a. Article 4 of Title 9, Section 5, Chapter 40, Existing Stationary Sources, Emission Standards for General Process Operations. 9 VAC 5-40-280 B.1.a. limits sulfur dioxide emissions from combustion installations in accordance with the following equation: S = 2.64K, where S equals the allowable emission of sulfur dioxide expressed in lbs/hr, and K equals the actual heat input at total capacity expressed in Btu x $10^6$ per hour. Actual heat input at total capacity of the thermal dryer is 156 Btu x $10^6$ per hour. Therefore, a sulfur dioxide emission limit of 411.84 lb/hr applies to the thermal dryer.

b. Article 15 of Title 9, Section 5, Chapter 40, Existing Stationary Sources, Emission Standards for Coal Preparation Plants. 9 VAC 5-40-1980 A.1. limits particulate emissions from a thermal dryer with a process weight rate of 200 tons/hr or more to no more than 105 lb/hr.

Article 15 references Article 1 of Chapter 40 for the limit of Visible Emissions and Fugitive Dust Emissions. The only specific requirement is for the visible emissions:

a. Standard for visible emissions: 20% and 60% for any one 6-minute period in any one hour.

There is a standard for fugitive emissions that specifies controlling the generation of fugitive emissions by various workplace type standards.

***Monitoring***

An annual inspection of each cyclone shall be conducted by the permittee to insure structural integrity.

The facility is a major source subject to Title V permitting and therefore subject to 40 CFR Part 64 – Compliance Assurance Monitoring (CAM). An emission unit is subject to CAM if it meets all of the following criteria on a pollutant-by-pollutant basis:

a. Emits or has the potential to emit uncontrolled quantities of one or more regulated air pollutants at or above major source levels,

b. Is subject to one or more emissions limitations for the regulated air pollutants for which it is major before control, and

c. Uses an add-on control device to achieve compliance with the emissions limitations.

The thermal dryer is the only emission unit currently at VP No. 3 that meets all the above criteria as follows:

a. The thermal dryer emits uncontrolled quantities of PM, PM-10, NOx, $SO_2$, VOC and CO above major source levels,

b. The thermal dryer is subject to the PM emission limit of 105 lb/hr as indicated by 9 VAC 5-40-1980.A, and

c. The thermal dryer uses a venturi scrubber to comply with the PM emission limit.

Because the thermal dryer meets the above criteria only when considering PM, CAM is required only for PM. While the venturi scrubber provides some control (about 44% according to the applicant) of $SO_2$ emissions from the thermal dryer, it is not used to comply with the $SO_2$ emission limit. Therefore, CAM does not apply to $SO_2$ emissions from the thermal dryer. The applicant submitted CAM information as required by 40 CFR 64.5, Deadlines for Submittals.

The permit contains requirements for installation of the following:

a. A monitoring device for the temperature of the gas at the exit of the thermal dryer;

b. A monitoring device for the measurement of the pressure loss through the venturi constriction of the control device; and

c. A monitoring device for the measurement of the water supply pressure to the control equipment.

The permit contains requirements to monitor, operate, calibrate and maintain the above-listed devices according to the CAM plan proposed by the applicant and summarized in the following table:

Thermal Dryer Compliance Assurance Monitoring Plan

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| I. Indicator | Exhaust Gas Temperature | Pressure Loss | Water Supply Pressure |
| A. Measurement Approach | Temperature probe | Differential pressure gage | Pressure gage |
| II. Indicator Range | To be established during initial performance tests | An excursion is defined as a pressure loss through the scrubber of less than 28 inches water column | An excursion is defined as a water supply pressure of less than 25 pounds per square inch gage |
| III. Performance Criteria<br><br>A. Data Representativeness | The temperature probe monitors the temperature of the gas at the exit of the thermal dryer | The differential pressure gage monitors the static pressures upstream and downstream of the scrubber's venturi throat | The water pressure gage monitors water supply pressure to the scrubber. The gage is to be located close to the water discharge point. |
| B. Verification of Operational Status | The monitoring device shall be installed and calibrated according to manufacturer's recommendations prior to initial performance tests | The monitoring device shall be installed and calibrated according to manufacturer's recommendations prior to initial performance tests | The monitoring device shall be installed and calibrated according to manufacturer's recommendations prior to initial performance tests |
| C. QA/QC Practices and Criteria | The device is to be certified by the manufacturer to be accurate within ± 3° Fahrenheit and calibrated annually based on the manufacturer's recommendations | The device is to be certified by the manufacturer to be accurate within ± 1 inch water gage and calibrated annually based on the manufacturer's recommendations | The device is to be certified by the manufacturer to be accurate within ± 5% of design water supply pressure and calibrated annually based on the manufacturers recommendations |
| D. Monitoring Frequency | Measure continuously | Measure continuously | Measure continuously |
| E. Data Collection Procedures | Record continuously on a chart recorder | Record continuously on a chart recorder | Record continuously on a chart recorder |
| F. Averaging Period | None | None | None |

The indicators to be monitored reflect the performance of the venturi scrubber and thermal dryer. The range of operation for the scrubber pressure drop and the scrubber water supply pressure indicators are based on manufacturer design. The thermal dryer exit gas temperature range will be determined during future performance tests. The permit contains requirements for performance tests for particulate emissions from the thermal dryer when the dryer is re-started and then once every two years. Performance test data will be used to verify the accuracy of each indicator range so that ongoing compliance with the PM emission limit can be reasonably assured. Operation of the thermal dryer and venturi scrubber so that each indicator is maintained within the appropriate range will provide a reasonable assurance of compliance with the PM emission limit. The monitoring proposed in the Compliance Assurance Monitoring plan is the same as that required by 40 CFR Part 60, Subpart Y, Standards of Performance for Coal Preparation Plants.

The permit contains conditions requiring the permittee to conduct monitoring in accordance with 40 CFR 70.6(a)(3)(i) and 40 CFR 64.6(c).

The permit contains a requirement for weekly visual observations of the thermal dryer exhaust stack. If visible emissions are present during any of the observations, a six-minute visible emission evaluation must be performed in accordance with 40 CFR 60, Appendix A, Method 9. If during the six minutes, any readings above 20% opacity are noted, a one-hour Method 9 VEE is required. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as possible such that no visible emissions exist; the emissions unit is operating at normal conditions; and, the cause and corrective measures taken are recorded. This will satisfy the periodic monitoring requirement for the visible emission limitation included in the permit.

The emissions from the facility are not likely to exceed the emission standards listed above. With proper operation of the equipment and associated controls, the thermal dryer will not exceed the hourly emission limitations. Attachment A contains a comparison of thermal dryer particulate matter and sulfur dioxide emissions as indicated by the most recent stack test data to the particulate matter and sulfur dioxide emission limits. This comparison indicates compliance can be predicted. Throughput and hours of operation records will be required.

***Recordkeeping***

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include but are not limited to the following:

a. Monitoring data, monitor performance data, monitor maintenance and corrective actions for each thermal dryer exit gas temperature probe, venturi scrubber differential pressure gage and the venturi scrubber water supply pressure gage;

b. Monthly and annual production of dried coal from the thermal dryer. Annual production shall be calculated monthly as the sum of each consecutive 12-month period;

c. Monthly and annual consumption of coal by the thermal dryer. Annual consumption shall be calculated monthly as the sum of each consecutive 12-month period;

d. Performance tests;

e. Results of the weekly visual observations of the thermal dryer exhaust stack and any visible emissions evaluations; and

f. Results of the annual inspections of the cyclone.

***Testing***

The permit contains requirements to conduct a performance test for particulate matter and sulfur dioxide emissions from the thermal dryer exhaust within 180 days of start-up of the thermal dryer and then once every two years, thereafter. Performance testing provides additional assurance of compliance with the PM and $SO_2$ emission limits and maintains an accurate range of operation for each indicator monitored through the CAM plan.

The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

***Reporting***

In addition to the information included in the semi-annual monitoring report required by the Recordkeeping and Reporting section in the General Conditions of the Title V permit, the semi-annual monitoring report shall also include the following:

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

The permit includes requirements to report date of anticipated and actual re-start of the thermal dryer.

***Streamlined Requirements***

There are no streamlined requirements.

**Facility-wide Requirements**

***Limitations***

The permit includes the coal processing and cleaning equipment as the facility-wide equipment.

The coal processing and cleaning equipment is subject to 9 VAC 5, Chapter 40, Article 15, Emission Standards for Coal Preparation Plants. There are no emission limits for the coal processing equipment, only references to the normal existing rules for visible emissions, fugitive emissions and others.

***Monitoring***

The monitoring requirements included in the permit meet Part 70 requirements.

The permit contains a requirement for weekly visual observations of the coal processing equipment. If visible emissions are present during any of the observations, a six-minute visible emission evaluation must be performed in accordance with 40 CFR 60, Appendix A, Method 9, on the emissions unit. If during the six minutes, any readings above 20% opacity are noted, a one-hour Method 9 VEE is required. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as possible such that no visible emissions exist; the emissions unit is operating at normal conditions; and, the cause and corrective measures taken are recorded. This will satisfy the periodic monitoring requirement for the visible emission limitation included in the permit.

***Recordkeeping***

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include visible emission observations and evaluations.

***Testing***

The permit does not require source tests specific to facility-wide equipment. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

***Reporting***

Facility-wide reporting requirements are discussed in the General Conditions section below.

***Streamlined Requirements***

There are no streamlined requirements.

**GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

**Comments on General Conditions**

**B. Permit Expiration**

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-2003".

**F. Failure/Malfunction Reporting**

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

**U. Malfunction as an Affirmative Defense**

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

**Y. Asbestos Requirements**

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

**STATE-ONLY APPLICABLE REQUIREMENTS**

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

a. Article 2 of Title 9, Section 5, Chapter 40, Existing Stationary Sources, Emission Standards for Odor.

**FUTURE APPLICABLE REQUIREMENTS**

Island Creek Coal Company did not identify any future applicable requirements in their application, and DEQ is unaware of any future requirements that may apply during the life of the Title V permit.

**INAPPLICABLE REQUIREMENTS**

40 CFR 60, Subpart Y, New Source Performance Standards for Coal Preparation Plants does not apply since the facility was constructed prior to the effective date of October 24, 1974.

**INSIGNIFICANT EMISSION UNITS**

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

| Emission Unit No. | Emission Unit Description | Citation[1] (9 VAC) | Pollutant Emitted (5-80-720 B.) |
|---|---|---|---|
| INS-01 | Storage Tanks | 5-80-720 B.2 | VOC |
| INS-02 | Emergency Dryer Bypass | 5-80-720 B | VOC, $NO_x$, $SO_2$, PM-10, CO |
| INS-03 | Rock Dust Silo | 5-80-720 B.1 | PM-10 |
| INS-04 | Magnetite Silo | 5-80-720 B.1 | PM-10 |
| INS-05 | Thermal Dryer Pre-Igniter | 5-80-720 B | VOC, $NO_x$, $SO_2$, PM-10, CO |
| S007A | Froth Flotation | 5-80-720 B.2 | VOC, $NO_x$, $SO_2$, PM-10, CO |
| S007B | Vacuum Filtration System | 5-80-720 B.2 | VOC, $NO_x$, $SO_2$, PM-10, CO |
| S007D | Thickener | 5-80-720 B.2 | VOC, $NO_x$, $SO_2$, PM-10, CO |
| S016 | Rail Car Loadout Sprays | 5-80-720 B.2 | VOC, $NO_x$, $SO_2$, PM-10, CO |

[1]The citation criteria for insignificant activities is as follows:

9 VAC 5-80-720 B - Insignificant due to emission levels

## CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

## PUBLIC PARTICIPATION

A public notice regarding the draft permit was published in the *Virginia Mountaineer* newspaper in Grundy, Virginia on April 26, 2007. The public comment period for the draft permit began on April 27, 2007, and ended on May 26, 2007. A copy of the draft permit and public notice was sent by electronic mail to the U.S. EPA for concurrent review on April 19, 2007. A copy of the public notice was sent to the affected states, including West Virginia, Kentucky, North Carolina and Tennessee by postal mail on April 19, 2007. A copy of the public notice was sent to all persons on the Title V mailing list by e-mail, fax or letter no later than the date of publication.

No comments were received from the public, affected states or the U.S. EPA regarding the draft/proposed permit.

**Attachment A**

**VP No.3 - Island Creek Coal Company, Registration No. 10352**
**Thermal Dryer Particulate and Sulfur Dioxide Emissions**

Particulate and sulfur dioxide emissions from the VP No. 3 thermal dryer will be compared to applicable emission limits for a compliance determination. According to the permittee, the most recent emissions sampling that included particulate matter and sulfur dioxide was conducted on the VP No. 3 thermal dryer from October 7 to October 9, 1997. The thermal dryer consists of a pulverized coal-fired furnace with a fluidized bed dryer. The system was designed by the McNally Corporation. Particulate emissions are controlled by a Flex-Kleen High-Energy Flooded Disc scrubber.

Particulate matter (PM) concentrations were determined as outlined in EPA Method 5. Four tests for particulate matter were conducted while the dryer was operating. Test results are summarized as follows:

| | Run 1 | Run 2 | Run 3 | Run 4 |
|---|---|---|---|---|
| PM, grains/dscf | 0.01 | 0.006 | 0.011 | 0.009 |
| PM, lb/MMBtu | 0.16 | 0.11 | 0.19 | 0.14 |
| PM, lb/hr | 14.7 | 8.9 | 15.8 | 12.5 |

Where: grains/dscf = grains per dry standard cubic foot,
lb/MMBtu = pounds per million British thermal units, and
lb/hr = pounds per hour.

Since the thermal dryer was constructed prior to 1972 with no subsequent modifications, the requirements of Article 15 of Title 9, Section 5, Chapter 40, Emission Standards for Coal Preparation Plants are applicable. The particulate emission limit of 105 lb/hr, as indicated by 9 VAC 5-40-1980 A, applies to the VP No. 3 thermal dryer. A comparison of the emission limit indicated by 9 VAC 5-40-1980 A to the maximum emission rate of 15.8 lb/hr from Run 3, indicates compliance can be predicted.

Sulfur dioxide ($SO_2$) concentrations were determined as outlined in EPA Method 5. Four tests for $SO_2$ were conducted while the dryer was operating. Test results are summarized as follows:

| | Run 1 | Run 2 | Run 3 | Run 4 |
|---|---|---|---|---|
| $SO_2$, grains/dscf | 5.08E-06 | 5.24E-05 | 5.34E-05 | 5.16E-05 |
| $SO_2$, lb/MMBtu | 0.57 | 0.63 | 0.64 | 0.62 |
| $SO_2$, lb/hr | 52 | 53 | 53 | 53 |

Where: grains/dscf = grains per dry standard cubic foot,
lb/MMBtu = pounds per million British thermal units, and
lb/hr = pounds per hour.

Article 15 of Title 9, Section 5, Chapter 40, Emission Standards for Coal Preparation Plants does not indicate an $SO_2$ emission limit for thermal dryers. Therefore, in accordance with 9 VAC 5-40-240 D, the $SO_2$ emission limit indicated in Article 4 of Title 9, Section 5, Chapter 40, Emission Standards for General Process Operations is applicable. In accordance with 9 VAC 5-40-280 B.1.a, the $SO_2$ emission limit for the thermal dryer at the VP No. 3 facility is 411.84 lb/hr. A comparison of the emission limit indicated by 9 VAC 5-40-280 B.1.a to the maximum emission rate of 53 lb/hr measured during the stack test indicates compliance can be predicted.